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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,067	03/08/2001	Fumio Ohtomo	1710995	5284

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CHAPMAN AND CUTLER
111 WEST MONROE STREET
CHICAGO, IL 60603

EXAMINER
LUU, THANH X

ART UNIT	PAPER NUMBER
2878	

DATE MAILED: 07/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/802,067	Applicant(s) OHTOMO ET AL.	
	Examiner Thanh X Luu	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-7 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 08 March 2001 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: trestle 13 of Figure 13. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. Figure 13 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

4. The disclosure is objected to because of the following informalities:

It is unclear what the term "GPS" stands for. The abbreviation could stand for a number of different things, such as, "Global Positioning System", "Global Positioning Satellite" or "Global Positioning Sensor". Examiner recommends clarifying what "GPS" means at the first instance of its use in the specification. Examiner believes "GPS unit" refers to a Global Positioning Satellite receiver.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors; for instance, the terms "in horizontal direction" is grammatically incorrect.

Regarding claim 1, line 3, "the horizontal direction" lacks proper antecedent basis. In line 9, "the direction in which the guide laser beam is to be radiated" lacks proper antecedent basis. In lines 11-12, "the actual direction of radiation" lacks proper antecedent basis. In line 14, "the angle" lacks proper antecedent basis. Further in lines 3-4 and line 6, it is unclear if "a reference horizontal direction position" is the same as "a reference position in horizontal direction." It is also unclear how many second GPS units are present in the claims since Applicant claims "the second GPS unit located at a first position" and "the second GPS unit located at a second position." How can the second GPS unit be at two positions at the same time?

Regarding claim 2, line 3, "the horizontal direction" lacks proper antecedent basis. In line 9, "the direction in which the guide laser beam is to be radiated" lacks proper antecedent basis. In line 13, "the actual direction of radiation" lacks proper

antecedent basis. In line 14, "the angle" lacks proper antecedent basis. In line 11, "the second GPS unitl" should be --the second GPS unit--. Further, It is also unclear how many second GPS units are present in the claims since Applicant claims "the second GPS unit of the pole located at a first position" and "the second GPS unit[l] of the pole set to be radiated at a second position."

Regarding claims 4 and 5, line 3, "the position data" lacks proper antecedent basis.

Regarding claim 6, line 3, "the horizontal direction" lacks proper antecedent basis. In line 4, "the light reflected from the target" lacks proper antecedent basis. In lines 10 and 11, "the direction in which the guide laser beam is to be radiated" lacks proper antecedent basis. In lines 15 and 16, "the actual radiation direction" lacks proper antecedent basis. In line 12, it is unclear which pole "the pole at the second position" Applicant is referring to. Furthermore, in line 12, it is unclear in its given context how the second GPS unit acts to set the pole at the second position. As understood, the second GPS unit is simply a GPS receiver.

Claims 3 and 7 are indefinite by virtue of their dependency on an indefinite claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-7, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (pages 1-3 of Applicant's specification and Figure 13), hereinafter, AAPA, in view of Otomo et al. (JP Publication 11-256620, published September 21, 1999, see translation), hereinafter JP'620.

Regarding claims 1, 2 and 4, AAPA discloses (see Figure 13 and pages 1-3) a guide laser beam direction setting work system comprising a guide laser beam radiator (6) capable of radiating a guide laser beam in vertical and lateral directions with respect to a horizontal direction, a first unit (8) for providing a reference position (7A), and a second unit (11, 12) serving as markers for providing a position; wherein the first unit provides the reference position for the guide laser beam radiator, the second unit is located at a first position (at 11) to specify a direction in which the laser guide beam is to be radiated from the reference position; the second unit at a second position (7B) specifies the actual direction of the radiation of the guide laser beam, whereby an angle (gradient) at which the laser beam forms from the direction in which the guide laser beam is to be radiated to the actual direction is determined (see page 2, line 21) and the actual direction is set in the direction of the guide laser beam is to be radiated based on the angle (see page 2, lines 20-25). AAPA detects the positions of the second unit with the first unit. AAPA does not specifically disclose first and second GPS units to detect the positions as claimed. JP'620 teaches (see Figures 1 and 5) of a device for controlling the setting direction of a guide laser beam (4) having a first GPS unit (68) for detecting a reference position, a second GPS unit (80) on a pole for detecting a position. JP'620 further teaches (see paragraph 0045) using the detected positions to

calculate an angle to tilt the guide laser beam (4) in a desired direction. JP'620 also discloses (see Figures 1 and 5) each GPS unit (68, 80) are connected to a radio communication unit (10, 81) for transmitting a position data; the guide laser beam radiator (1) includes a receiver for receiving the position data and arithmetic means (11) for calculating the direction to set the guide laser beam radiator. JP'620 also recognizes (see paragraphs 0009 and 0052) that GPS units allow for more accuracy, precision in detection, faster and easier operation. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide first and second GPS units in place of the second units in the apparatus of AAPA in view of JP'620 to provide more accurate position data and improve the direction setting operation.

Regarding claim 6, AAPA discloses the claimed invention as set forth above. AAPA further discloses (see Figure 13) a target (12a) on a support. AAPA in view of JP'620 does not specifically disclose setting the laser beam on the center of the target. However, the exact position at which the laser beam is set is a matter of design choice. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to set the laser beam at the center of a target in the apparatus of AAPA in view of JP'620 to provide further precision in the direction setting apparatus.

Regarding claim 3, AAPA discloses two separate poles or elements located at the first and second position. AAPA in view of JP'620 does not specifically disclose using the same pole in the first and second position. However, GPS units are costly. It would have been obvious to a person of ordinary skill in the art at the time the invention

was made to consolidate the use of the second GPS unit in the apparatus of AAPA in view of JP'620 to reduce costs.

Regarding claim 5, AAPA discloses a person manually detecting the positions. AAPA does not specifically disclose RF signals, receivers and arithmetic means for automating the detection. JP'620 teaches (see Figures 1 and 5) each GPS unit (68, 80) are connected to a radio communication unit (10, 81) for transmitting a position data; the guide laser beam radiator (1) includes a receiver for receiving the position data and arithmetic means (11) for calculating the direction to set the guide laser beam radiator. Thus, JP'620 teaches of a device in which the direction setting of a laser beam is automated. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to further provide radio communication units, a receiver and an arithmetic means to calculate an angle to set the laser beam as claimed in the apparatus of AAPA in view of JP'620 to reduce error through automation and speed up the direction setting procedure.

Regarding claim 7, AAPA in view of JP'620 discloses the claimed invention as set forth above with regard to claim 6. AAPA and JP'620 do not specifically disclose the guide laser beam is operated to scan under an optical remote control unit. However, optical remote control units are notoriously well known in the art (e.g. television remote control). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide an optical remote control of the guide laser beam in the apparatus of AAPA in view of JP'620 to reduce the time it takes to manually operate the guide laser beam and improve the direction setting operation.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gudat (U.S. Patent 5,600,436) teaches of using GPS units in survey devices.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached on (703) 308-4881. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
July 26, 2002

Thanh X. Luu
Patent Examiner